

What is claimed is:

1       1. A wireless system for data communicating cashless vending transaction data and  
2       vending machine audit data to remote locations comprising:

3  
4       a vending machine controller interconnected with a vending machine, said  
5       vending machine controller having a plurality of peripheral device  
6       interfaces;

7  
8       a VIU interconnected with at least one of said plurality of peripheral  
9       device interfaces, said VIU having a first transceiver; and

10  
11      a base unit, said base unit having a second transceiver wherein, said first  
12      transceiver and said second transceiver wirelessly data communicate, said  
13      base unit having a communication interface for data communicating with a  
14      remote location;

15  
16      wherein said VIU data communicates wirelessly with said remote location by way of said  
17      base unit.

18  
1       2. The wireless system in accordance with claim 1 wherein, said first transceiver is at  
2       least one of the following types of transceiver: 430Mhz single channel transceiver,  
3       430Mhz dual channel transceiver, 430Mhz spread spectrum transceiver, 900Mhz single  
4       channel transceiver, 900Mhz dual channel transceiver, 900Mhz spread spectrum  
5       transceiver, 2.4Ghz single channel transceiver, 2.4Ghz dual channel transceiver, or  
6       2.4Ghz spread spectrum transceiver.

1 3. The wireless system in accordance with claim 1 wherein, said second transceiver is at  
2 least one of the following: 430Mhz single channel transceiver, 430Mhz dual channel  
3 transceiver, 430Mhz spread spectrum transceiver, 900Mhz single channel transceiver,  
4 900Mhz dual channel transceiver, 900Mhz spread spectrum transceiver, 2.4Ghz single  
5 channel transceiver, 2.4Ghz dual channel transceiver, or 2.4Ghz spread spectrum  
6 transceiver.

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1 4. The wireless system in accordance with claim 1 wherein, at least one of the following  
2 communicates half duplex: said first transceiver, or said second transceiver.

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1 5. The wireless system in accordance with claim 1 wherein, at least one of the following  
2 communicates full duplex: said first transceiver, or said second transceiver.

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1 6. The wireless system in accordance with claim 1 wherein, said remote location is at  
2 least one of the following: a credit bureau, a network center, a global network based data  
3 processing resource, or USALIVE.

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1 7. The wireless system in accordance with claim 1 wherein, said communication interface  
2 is at least one of the following: a modem interface, a network connection, an interactive  
3 interface, a serial interface, or a wireless interface.

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1 8. The wireless system in accordance with claim 7 wherein, said wireless interface is an  
2 interface to at least one of the following wireless devices: PCS network data modem,  
3 cellular network data modem, CDPD modem, CDMA modem, 2G wireless modem, 3G  
4 wireless modem, or RIM data modem.

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1 9. The wireless system in accordance with claim 7 wherein, said wireless interface is a  
2 local area network connection.

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1 10. The wireless system in accordance with claim 7 wherein, said wireless interface is a  
2 wide area network connection.

3

1 11. The wireless system in accordance with claim 1 wherein, more than one of said VIU  
2 data communicates with said base unit.

3

1 12. The wireless system in accordance with claim 1 wherein, said VIU wirelessly  
2 programs said base unit.

3

1 13. The wireless system in accordance with claim 1 wherein, said VIU wirelessly  
2 programs the baud rate of said communication interface to match the baud rate of said  
3 remote location.

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1 14. The wireless system in accordance with claim 1 wherein, said peripheral device  
2 interface is at least one of the following: a multi-drop-bus interface, a coin acceptor  
3 interface, a bill acceptor interface, a serial interface, or a data exchange interface.

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1 15. The wireless system in accordance with claim 1 wherein, said base unit is a wall  
2 mount unit.

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1 16. The wireless system in accordance with claim 1 wherein, data communication  
2 between said base unit and said remote location is effectuated with a phone line.

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1 17. The wireless system in accordance with claim 1 wherein, data communication  
2 between said base unit and said remote location is effectuated with a network connection.

3

1 18. The wireless system in accordance with claim 1 wherein, data communication  
2 between said VIU and said base unit is encrypted.

3

1 19. The wireless system in accordance with claim 1 wherein, data communication  
2 between said VIU and said base unit is encrypted and data communication between said  
3 base unit and said remote location is unencrypted.

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1 20. The wireless system in accordance with claim 1 wherein, a plurality of wireless  
2 packets data communicated from said VIU are received at said base unit and  
3 communicated to said remote location without packet level error checking at said base  
4 unit, said remote location assembles said plurality of wireless packets into a data  
5 message, said remote location error checks said data message, said remote location  
6 communicates an acknowledge or not-acknowledge, based on error check results of said  
7 data message, to said VIU by way of said base unit.

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1 21. The wireless system in accordance with claim 1 wherein, cashless transaction data  
2 and vending machine audit data is selectively data communicated to said remote location  
3 when said remote location is at least one of the following: a network center, a global  
4 network based data processing resource, or USALIVE; and cashless transaction data is  
5 selectively data communicated to said remote location when said remote location is a  
6 credit bureau.

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1 22. A wireless system for data communicating cashless vending transaction data and  
2 vending machine audit data to remote locations comprising:

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4 a vending machine controller interconnected with a vending machine, said  
5 vending machine controller having a plurality of peripheral device  
6 interfaces, said plurality of peripheral device interfaces include at least one

7 of the following types of interfaces: a multi-drop-bus interface, or a data  
8 exchange interface;

9  
10 a VIU interconnected with at least one of said plurality of peripheral  
11 device interfaces, said VIU having a first transceiver; and

12  
13 a base unit, said base unit having a second transceiver wherein, said first  
14 transceiver and said second transceiver wirelessly data communicate, said  
15 base unit having a modem, said modem being connected to a phone line  
16 for data communicating with a remote location;

17  
18 wherein said VIU data communicates wirelessly with said remote location by way of said  
19 base unit.

20  
1 23. The wireless system in accordance with claim 22 wherein, said first transceiver is at  
2 least one of the following types of transceiver: 430Mhz single channel transceiver,  
3 430Mhz dual channel transceiver, 430Mhz spread spectrum transceiver, 900Mhz single  
4 channel transceiver, 900Mhz dual channel transceiver, 900Mhz spread spectrum  
5 transceiver, 2.4Ghz single channel transceiver, 2.4Ghz dual channel transceiver, or  
6 2.4Ghz spread spectrum transceiver.

7  
1 24. The wireless system in accordance with claim 22 wherein, said second transceiver is  
2 at least one of the following: 430Mhz single channel transceiver, 430Mhz dual channel  
3 transceiver, 430Mhz spread spectrum transceiver, 900Mhz single channel transceiver,  
4 900Mhz dual channel transceiver, 900Mhz spread spectrum transceiver, 2.4Ghz single  
5 channel transceiver, 2.4Ghz dual channel transceiver, or 2.4Ghz spread spectrum  
6 transceiver.

1 25. The wireless system in accordance with claim 22 wherein, said VIU wirelessly  
2 programs the baud rate of said modem to match the baud rate of said remote location.

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1 26. The wireless system in accordance with claim 22 wherein, cashless transaction data  
2 and vending machine audit data is selectively data communicated to said remote location  
3 when said remote location is at least one of the following: a network center, a global  
4 network based data processing resource, or USALIVE; and cashless transaction data is  
5 selectively data communicated to said remote location when said remote location is a  
6 credit bureau.

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1 27. A method of wirelessly data communicating cashless transaction data, and vending  
2 machine audit data to remote locations comprising the steps of:

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- 4 a) determining at a VIU the availability of a base unit for data communication,  
5 said VIU being installed in a vending machine, said vending machine having a  
6 vending machine controller, said vending machine controller having a  
7 plurality of peripheral device interfaces, said VIU being interconnected to said  
8 plurality of peripheral device interfaces, said base unit having a  
9 communication interface;
- 10 b) communicating wirelessly data between said VIU and said base unit to  
11 determine if said communication interface is in use;
- 12 c) receiving wirelessly at said base unit a first plurality of data from said VIU;
- 13 d) passing received said first plurality of data to said remote location;
- 14 e) receiving at said base unit a second plurality of data from said remote  
15 location;
- 16 f) passing wirelessly received said second plurality of data to said VIU; and
- 17 g) terminating communication.

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1 28. The method of wirelessly data communicating in accordance with claim 27 further  
2 comprises the step of:

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4 a) programming selectively said base unit operating characteristics by way of  
5 wireless data communication between said VIU and said base unit, wherein  
6 said VIU remotely configures said base unit.

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1 29. The method of wirelessly data communicating in accordance with claim 27 wherein,  
2 the step of determining at a VIU the availability of a base unit for data communication  
3 further comprises the steps of:

4

5 a) listening at said VIU for a status packet wirelessly data communicated from  
6 said base unit indicating the current state of said base unit; and  
7 b) broadcasting wirelessly from said VIU a wake-up command, when said status  
8 packet is not received at said VIU wherein, said wake-up command when  
9 received by said base unit initiates the transmission of said status packet.

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1 30. The method of wirelessly data communicating in accordance with claim 29 wherein,  
2 said status packet includes said base unit state conditions indicating at least one of the  
3 following: base unit is available, base unit is busy, a packet counter, or a polling signal.

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1 31. The method of wirelessly data communicating in accordance with claim 27 wherein,  
2 said plurality of peripheral device interfaces is at least one of the following: a multi-drop-  
3 bus interface, a coin acceptor interface, a bill acceptor interface, a serial interface, or a  
4 data exchange interface.

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1 32. The method of wirelessly data communicating in accordance with claim 28 wherein,  
2 the step of programming selectively said base unit operating characteristics include said

3 VIU wirelessly programming the baud rate of said communication interface to match the  
4 baud rate of said remote location.

5

1 33. The method of wirelessly data communicating in accordance with claim 27 wherein,  
2 said communication interface is at least one of the following: a modem interface, a  
3 network connection, an interactive interface, a serial interface, or a wireless interface.

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1 34. The method of wirelessly data communicating in accordance with claim 33 wherein,  
2 said wireless interface is an interface to at least one of the following wireless devices:  
3 PCS network data modem, wireless modem, cellular network data modem, CDPD  
4 modem, CDMA modem, 2G type wireless modem, 3G type wireless modem, or RIM  
5 data modem.

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1 35. The method of wirelessly data communicating in accordance with claim 27 wherein,  
2 said remote location is at least one of the following: a credit bureau, a network center, a  
3 global network based data processing resource, or USALIVE.

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1 36. The method of wirelessly data communicating in accordance with claim 27 wherein,  
2 data communication between said base unit and a network of a plurality of said VIU are  
3 managed by way of each of said VIU listening to a status packet transmitted from said  
4 base unit to determine the availability and current state of said base unit prior to initiating  
5 data communication with said base unit.

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1 37. The method of wirelessly data communicating in accordance with claim 27 wherein,  
2 the step of terminating communication includes terminating communication between said  
3 base unit and said remote location at the request of at least one of the following: said  
4 VIU, said base unit, or said remote location.

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1 38. The method of wirelessly data communicating in accordance with claim 27 wherein,  
2 steps 'c', 'd', 'e', and 'f' repeat until at least one of the following data processing devices  
3 data communicates a terminate message: said VIU, said base unit, or said remote  
4 location.

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1 39. The method of wirelessly data communicating in accordance with claim 27 wherein,  
2 said first plurality of data is at least one of the following: said vending machine DEX  
3 data, said vending machine MDB data.

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1 40. The method of wirelessly data communicating in accordance with claim 27 wherein,  
2 said first plurality of data is cashless vending transaction data.

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1 41. The method of wirelessly data communicating in accordance with claim 27 wherein,  
2 said second plurality of data is said VIU configuration data.

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